



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/519,016

12/21/2004

Richard Schmidt

52201-0631

3200

28481 7590 01/26/2009
TIAJOLOFF & KELLY
CHRYSLER BUILDING, 37TH FLOOR
405 LEXINGTON AVENUE
NEW YORK, NY 10174

EXAMINER

DEGHAN, QUEENIE S

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

01/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,016	Applicant(s) SCHMIDT ET AL.	
	Examiner Queenie Dehghan	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-21 is/are pending in the application.
- 4a) Of the above claim(s) 9-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rau et al. (4,162,908) in view of Ruppert et al. (5,788,730). Regarding claim 1, Rau et al. disclose a method for glass preform using a plasma burner, the method comprising supplying a hydrogen-free media flow comprising SiCl₄ and oxygen to a multi-nozzle deposition burner and focusing the media flow into a plasma zone via a media nozzle, wherein the SiCl₄ is oxidized to form SiO₂ particles and depositing the SiO₂ particles on a surface while being vitrified (col. 1 line 64 to col. 2 line 22, line 59, col. 4 lines 24-27, figures 1 and 2). Rau et al. disclose a multi-nozzle burner, but fail to disclose a media

Art Unit: 1791

nozzle of that tapers in the direction of the plasma zone. Ruppert teaches a multi-nozzle burner for deposition of glass starting materials on a surface, wherein media flow is focused by mean of a media nozzle that tapers in the direction of the deposition surface. Although the burner nozzle is employed for a flame hydrolysis process, Ruppert teaches a nozzle that tapers in the direction of the deposition surface has the effect of focusing a gas stream toward the area of the reaction zone and stabilizing the media flow (col. 3 lines 50-67, figure). It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a media nozzle that is tapered in the multi-nozzle burner of Rau since it allows for the stabilization and focus of the media flow towards the plasma reaction zone.

4. Regarding claim 8, Rau discloses a glass starting material that contains a fluorine-containing component (col. 2 lines 56-29).

5. Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rau et al. in view of Ruppert et al. (5,788,730), as applied to claim 1, in further view of Edahiro et al. (4,402,720). Regarding claims 3 and 4, Rau teaches media flow that is enveloped with oxygen working gas since it already well mixed in with the media flow (col. 3 lines 15-25, 53-64. Rau also teaches flowing oxygen from a first gas nozzle of the deposition burner (col. 3 lines 15-25). Although the oxygen from the first gas nozzle does envelope the media flow, Rau also mentions the working gas has been supplied through the media nozzle. Edahiro teaches a plasma burner comprising of multiple nozzles, wherein a glass starting material flows from a media nozzle and an oxygen-containing working gas flows from a first working gas nozzle such that the oxygen

Art Unit: 1791

envelops the media flow. Also supplying the working gas separate to allow for the formation of Si-N bonds first before Si-O bonds in the case of depositing nitrogen doped silica particles (col. 6 lines 31-65, fig 3a). Although not specifically disclosed, it would be reasonable to expect that the first working gas nozzle of Edahiro functions as a diffuser since it disperse the oxygen containing working gas such that the glass starting material and working gas are combined to form the glass particles (col. 9 lines 40-44). Additionally, Ruppert teaches the first tube surrounding a tapered nozzle results in an expansion area, also known as the diffuser area, which allows for a flow of gas in turbulent manner (col. 6, lines 13-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to have adapted a first working gas nozzle for distributing a oxygen-containing working gas that envelops the glass starting material from the media nozzle in the process of Rau because supplying oxygen working gas from a separate nozzle allows for the desired incorporation of dopants such as nitrogen in the silica glass, as taught by Edahiro. Also, it would have been obvious to one of ordinary skill in the art at the time of the invention to have also flowed the working gas in a turbulent manner from a nozzle that functions as a diffuser in order to ensure the oxidation reaction of the glass starting material, by the ample diffusion of the working gas into the glass starting material.

6. Regarding claim 5, Rau wherein when exiting from the working gas nozzle the working gas flow is enveloped by at least one oxygen- containing separating gas flow exiting from an annular gap nozzle coaxially surrounding the working gas nozzle (col. 3 lines 15-25, 60-64, col. 4 lines 11-15, figures 1 and 2).

Art Unit: 1791

7. Regarding claim 6, Rau discloses producing a plasma zone by a high-frequency excitation inside a burner tube (12) into which a mixture of media flow and working gas flow is introduced (col. 3 lines 15-25, 60-62).

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rau et al. (4,162,908) in view of Ruppert et al. (5,788,730), as applied to claim 1 above, in view of Gouskov et al. (6,535,240). Rau et al. disclose supplying a glass starting material such as SiCl_4 , but uses oxygen as a carrier gas. Gouskov et al. teaches a plasma vapor deposition process using a glass starting material, such as SiCl_4 also, and a carrier gas, wherein the carrier gas can alternatively be oxygen or nitrogen (col. 6 lines 25-46). It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized nitrogen gas as a carrier gas for the glass starting material as an alternative carrier gas in the process of Rau because Gouskov has demonstrated that it is known in the art and it equally serves to deliver the glass starting material as oxygen does.

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven P. Griffin/
Supervisory Patent Examiner, Art
Unit 1791

Q Dehghan